

FHWA Docket No. FHWA-2001-8954 National Bridge Inspection Standards

Application of Standards

Should the FHWA develop its own definition of a bridge for the purpose of inspection and reporting? No. The existing AASHTO definition is adequate and is generally accepted.

Should the FHWA definition change the way the bridge length is determined or what the minimum bridge length should be for reporting purposes? The determination of bridge length is generally adequate, though there are certain cases that may need to be reassessed, such as highly skewed reinforced concrete box culverts. As for minimum bridge length, there is a concern that there are structures less than 20' long that are on defense-critical highways, critical travel routes, school bus routes, or transit routes which are not being inspected on a regular basis, if at all. It would be prudent to include some consideration of the criticality of the route, ADT, or environment in the establishing of a minimum bridge length. An alternative would be to establish requirements for the inspection of non-qualifying structures at some prescribed interval, perhaps every four years.

What impact will the possible inclusion of more bridges be (1) on public authorities complying with this as an NBIS requirement, (2) or on the FHWA which maintains the inventory, (3) or on the HBRRP funds? More bridges means more data to be generated and stored and more workload for public authorities. The impact on HBRRP funds would be dependent on changes in the funding requirements to include shorter bridges.

Inspection Procedures

What impact will changing the underwater inspection intervals have on public authorities complying with this as an NBIS requirement? Given that scour is the leading cause of bridge failure in the United States and that the underwater portions of the bridge are the least visible for easy inspection, it makes no sense to me to extend the interval for underwater inspections. If anything, it should be shortened to coincide with the routine topside inspection of the structure so that a complete evaluation of the bridge is provided on a regular basis.

What, if any, would be the impact on public authorities complying with evaluation of scour at bridges criteria within the NBIS regulation? None. I believe many public authorities are already evaluating scour at their bridges.

Frequency of Inspections

Should the 4-year interval be increased so that more bridges would be eligible for the extended inspection cycle? No. There are too many unforeseen circumstances that could occur that could jeopardize the safety of the bridge if allowed to go uninspected for longer periods of time. Examples are undermining, vehicular damage, ship impact, rot or insect damage of timber members, scour, etc.

What would be a reasonable interval? Many states require a biennial inspection, which seems appropriate.

What impact would this have on the safety of bridges? As mentioned above, extending the inspection interval could potentially jeopardize the safety of the bridge inventory.

Qualification of Personnel

Should the individual in charge of the inspection and reporting, who is a PE, be required to have the same training as bridge inspectors and have additional experience in bridge inspection? Yes, especially the requirement for additional experience.

Should the NBIS regulation be more specific as to the discipline of the professional engineer responsible for these bridge inspections and what impact would this change have on public authorities complying with this? Yes, given that the safety inspection of bridges involves the structural evaluation of each structure, it is prudent to have civil or structural professional engineers with bridge inspection training and experience in responsible charge of the inspections. Mechanical and electrical engineers should be consulted on movable bridges. This should have little to no effect on public authorities complying with this.

What impact would requiring certification training in proportion to the complexity of the bridge structure being inspected, and making this a part of a requirement for inspectors under the national bridge inspection program have on public authorities complying with this as an NBIS requirement? Training is fine, but must be combined with relevant and verifiable experience. Any certification should take into account both training and experience.

Should those performing underwater inspections be qualified licensed professional engineers? No. Underwater inspectors should meet the same requirements as topside inspectors, with the additional requirement of being trained and experienced as commercial divers in accordance with criteria specified within the American National Standards Institute Commercial Diver Training – Minimum Standard. This requirement for certification as a commercial diver should be mandatory for all underwater inspectors and should be an NBIS requirement.

What impact would requiring the underwater inspector to be an engineer have on public authorities complying with this as an NBIS requirement? Increased costs and more difficulty in completing underwater inspections with absolutely no gain in benefits.

Inspection Report

What, if any, would the impact be on public authorities complying with only allowing the inspector who was out in the field to change the inspection report as an NBIS requirement? Many states require a professional engineer who is in responsible charge of the inspections to review and sign and seal the inspection report. Obviously, in this case, the professional engineer has to have some say as to the content of the report. However, the professional engineer and the inspector should discuss and reach a consensus on any changes in the inspection report so that the current condition of the bridge is accurately reflected.

Inventory

Should the reporting requirements for the NBIS be changed and what, if any, would the impact be on public authorities complying with this? No. The reporting requirements seem adequate.